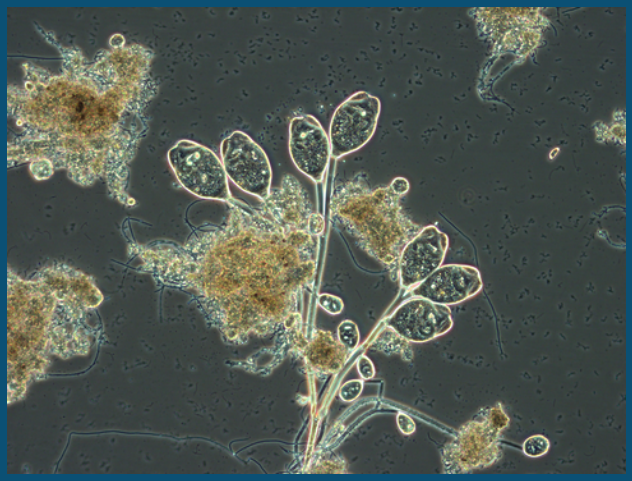
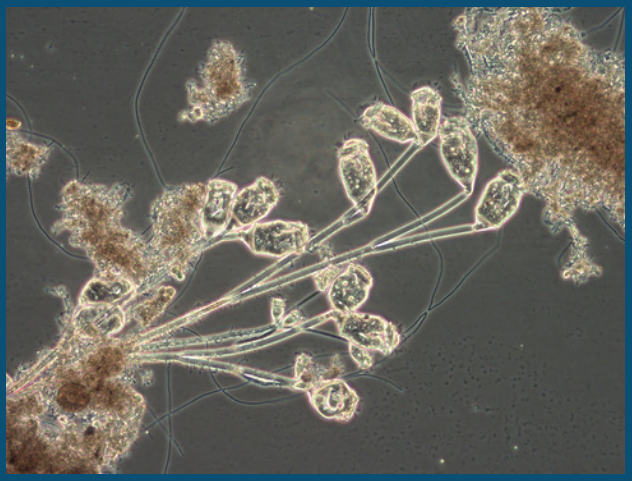
WASTEWATER BUG SPOTLIGHT
STALKED CILIATE

Stalked ciliates, like crawling ciliates, are protozoa characterized by the presence of vibrating, hair-like organs known as cilia, found on the cell's surface. They can be easily identified by their large head that is attached to a stem-like structure called a stalk. Stalked ciliates attach to sludge or other clumped bacteria and use their cilia to create a water vortex around their mouth. This vortex allows the ciliate to filter feed on the bacteria-rich wastewater, aiding in wastewater treatment.

Stalked ciliates can grow individually or in colonies. Stalked ciliate colonies are comprised of multiple heads shooting off from a single base stalk. This is why some microbiologists refer to the stalked ciliates as the "bouquets of wastewater." The laboratory and operations staff at El Estero Water Resource Center observe stalked ciliate populations under the microscope to help determine ecosystem health and wastewater treatment efficacy. There are many different species of stalked ciliates, but their combined presence tends to indicate stable conditions and healthy sludge within aeration basins.





Stalked ciliates found under the microscope at the City's El Estero Water Resource Center, magnified x400.

El Estero
WATER RESOURCE CENTER

For more information on wastewater treatment visit www.SantaBarbaraCA.gov/ElEstero